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Africana

Military Expenditures and Socio-Economic Development in Africa: a Summary of Recent Empirical Research

by Robert E. Looney, *Professor, National Security Affairs, Naval Postgraduate School, Monterey, California*

Africa's dismal economic performance in recent years has spawned a rather vigorous debate over where to lay the blame for the continuing crisis.[1] The United Nations and associated agencies cite factors outside the control of individual governments, and stress the detrimental impact of the poor condition of the world economy, notably the decline in commodity prices and foreign aid. By way of contrast, the World Bank and the International Monetary Fund favour the school of thought that lays blame more directly on internal policy-making. Here the actions taken by governments to distort, for example, exchange rates and agricultural prices, and to expand unprofitable state enterprises, are seen as the main reasons for the continent's economic decline.

More recently another potential cause of economic deterioration has been receiving considerable attention, namely: excessive military expenditures and appropriation of scarce foreign exchange for increased imports of arms. These rose faster in Africa than in any other region of the world throughout the 1970s, as Robin Luckham has noted, and growth stagnated so markedly during this period that income *per capita* in 1983 was estimated to be 4 per cent below its 1970 level. While Luckham seems unwilling to link the continent's setbacks to militarisation (stressing instead poor allocation of resources in the early 1970s, and the world depression in the late 1970s and early 1980s), he does note that African economies have performed significantly worse than those of other developing countries facing similar external difficulties.[2]

A reluctance to speculate as to the existence of a strong link between Africa's economic malaise and its militarisation is understandable given the political sensitivity of the issue. Furthermore, a great deal of controversy exists in the empirical literature as to the precise manner in which spending on defence affects economic variables.[3] However, recent statistical assessments appear to be capable of providing insights into the impact that such spending has on African development.[4]

[1] The debate is summarised and empirically tested in David Wheeler, 'Sources of Stagnation in Sub-Saharan Africa', in *World Development* (Oxford), 1984, pp. 1–23.

[2] Robin Luckham, 'Militarisation in Africa', in Stockholm International Peace Research Institute, *World Armaments and Disarmament, SIPRI Yearbook, 1985* (Stockholm, 1985), pp. 295–328.

[3] See, for example, the debate in *Armed Forces and Society* (Cabin John, Md.) on 'Defense Expenditures and Economic Growth in Developing Countries' between Peter C. Frederiksen and Robert E. Looney, Summer 1983, pp. 633–45, and Winter 1985, pp. 298–301, and Nicole Ball, Winter 1985, pp. 291–7.

[4] Cf. Robert E. Looney, 'The Role of Military Expenditures in the African Economic Crisis',

The general purpose of this research note is, therefore, to draw on these studies in an attempt to answer the following questions: (1) To what extent can the poor socio-economic performance of Africa be attributed to military expenditures? (2) Which sectors, if any, are the hardest hit? (3) Are some countries more likely than others to suffer adverse affects?

A Framework for Analysis

Robert Looney and Peter Frederiksen have found considerable support for the proposition that increased military expenditures retard growth in countries that are experiencing foreign-exchange constraints, while helping development in those that are relatively well endowed with resources.[1] Apparently in the latter, the associated positive effects in, for example, health and literacy are sufficiently strong to offset the diversion of foreign exchange away from productive investment. Clearly, additional spending on defence in most African economies, given their relatively poor export performance and/or limited access to international capital markets, might be expected to have a generally negative impact, but this may differ from country to country, depending on the composition of these expenditures.

African governments that experience relatively severe constraints while simultaneously facing high internal and/or external threats will be forced to allocate a relatively large proportion of their resources to imported arms and equipment, and they will not be in a particularly good position to fully use the military as a medium for increasing human capital. However, there is considerable evidence that infrastructural and skill spill-overs associated with defence spending do exist in Africa.[2] Useful civil projects are often undertaken by members of the armed services, and there is reason to believe that these may create net positive socio-economic gains for the economy and population at large.[3] In sum, two opposing forces appear to be at work in Africa, the relative magnitude of which will undoubtedly determine the impact that spending on defence has on the economy.

Operationally, it is possible to correlate the effects of resource constraints, as formulated by Looney and Frederiksen, with the analysis of security by Robert Rothstein who, as may be seen from Table 1, has constructed a matrix capable of classifying developing countries on the basis of governmental

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Monterey, California, 1987. More general conclusions can be drawn from: Robert E. Looney and P. C. Frederiksen, 'Defense Expenditures, External Public Debt, and Growth in Developing Countries', in *Journal of Peace Research* (Oslo), December 1986, pp. 329–38; Robert E. Looney, 'Impact of Arms Production on Third World Distribution and Growth', in *Economic Development and Cultural Change* (Chicago), 1988, 'Economic Environments Affecting Third World Arms Imports', California Seminar, Rand Corporation, Santa Monica, 26 February 1988, 'Impact of Military Expenditures on Third World Debt', in *Canadian Journal of Development Studies* (Ottawa), 1987, pp. 7–26, and 'Conventional Wisdom vs. Empirical Reality: the case of third world defense expenditures and arms production', U.S. A.I.D. Workshop on Security and Development in Developing Countries, Washington, D.C., 9 March 1988.

[1] Looney and Frederiksen, 1986, loc. cit.

[2] Bruce Arlinghaus, *Military Development in Africa* (Boulder, 1984), p. 11.

[3] Cf. H. R. Hestman, 'The Potential Role of the Military in National Development', in *Militaria* (Milan), 1978, pp. 1–11.

Threats: Type and Intensity	Legitimacy and Government Effectiveness (G.E.)					
	High Legitimacy		Medium Legitimacy		Low Legitimacy	
	High G.E.	Low G.E.	High G.E.	Low G.E.	High G.E.	Low G.E.
External:						
Low		Costa Rica	Taiwan			
High	Israel Saudi Arabia	Cuba	South Korea		Iraq	Somalia
Mixed:						
Low				Ecuador, Kenya Tunisia		
High		India Zimbabwe	Kuwait Libya	Iran, Jordan Morocco Nicaragua Peru, Thailand		Angola, Bangladesh, Chad El Salvador, Ethiopia, Guyana Honduras, Lebananon, Mauritania Mozambique, Oman, Pakistan Sudan, Syria
Internal:						
Low	Côte d'Ivoire Venezuela	Barbados Colombia Jamaica Tanzania	Malaysia Singapore Trinidad & Tobago	Algeria, Benin Brazil, Egypt Gabon, Malawi Mexico, Nepal Panama, Senegal		Burundi, Congo, Haiti, Indonesia Paraguay, Rwanda, Sierra Leone Togo
High		Argentina	Cameroon	Dominica, Sri Lanka Zambia		Bolivia, Burkina Faso, Burma Cape Verde, Central A.R., Chile Guatemala, Guinea, Liberia Madagascar, Mali, Niger, Nigeria Philippines, Uganda, Uruguay

[1] Source: Rothstein, op. cit. p. 30, based on judgements about country placements that were made during May–June 1984.

legitimacy/effectiveness and degree of internal/external threats.[1] In general, those African régimes with a low legitimacy tend to experience a high level of threat, and *vice versa*. While there are several exceptions (notably Nigeria and Tunisia) to this pattern, it was felt that for purposes of further analysis the following two-group sample was sufficient:

1. Non-conflict states, *defined as those with medium to high levels of governmental effectiveness and/or low threats*, and on this basis Algeria, Benin, Cameroon, Congo, Côte d'Ivoire, Kenya, Libya, Malawi, Morocco, Rwanda, Senegal, Sierra Leone, South Africa, Tanzania, Togo, Tunisia, and Zimbabwe were so classified.
2. Conflict states, *defined as those with low governmental effectiveness*, and on this basis Angola, Burkina Faso, Central African Republic, Chad, Ethiopia, Guinea, Liberia, Madagascar, Mauritania, Mozambique, Niger, Nigeria, Somalia, the Sudan, Uganda, and Zaïre were so classified.

An examination of the socio-economic and military differences between the two categories verifies the general picture sketched above, i.e. that those in the first group have consistently superior socio-economic performances in respect of a wide variety of indices, while those in the second group have a higher military burden if measured as a share of G.N.P. The external sectors also vary considerably: while the conflict states had somewhat better export performances in the 1960s, their ability to import was significantly below that of the non-conflict states from 1970 to 1982, in part because of their relative ability to borrow externally, as indicated by both the total volume and servicing of debt.[2]

If the conceptual framework outlined above is correct, we should expect to find a generally favourable association between military expenditures in the non-conflict states and their so-called 'quality of life', economic activity, and resources for development, with a réverse relationship in the other states.

Empirical Results

In order to overcome the difficulties involved in artificially creating a 'quality of life' index, an analysis was made of 14 socio-economic indices: life expectancy, infant mortality, population per physician and hospital bed, availability of safe water; *per capita* income, supply of proteins and calories, expenditure on public health and education; extent of adult literacy, percentage of children in school and number per teacher, women in university enrolment.[3] The results of this exercise indicate that all African countries can be judged on the basis of their levels of achievement in respect of the following

[1] Robert Rothstein, 'The "Security Dilemma" and the "Poverty Trap" in the Third World', Fletcher School and University of London Conference on Third-World Military Expenditures, London, March 1986, pp. 27–9. Clearly, variables such as legitimacy and effectiveness are difficult to estimate because they require subjective judgement by analysts, and the same is true for the degree of threat (external or internal) perceived by ruling élites.

[2] See Looney, 'The Role of Military Expenditures in the African Economic Crisis', copies of which are available from the author, if so requested.

[3] The data are for 1980, taken from Ruth Leger Sivert, *World Military and Social Expenditures, 1983* (Washington, D.C., 1983). The military data used in the regressions are also from this source.

main developmental phenomena: (i) general human capital, (ii) public expenditure *per capita*, (iii) nutrition, and (iv) education among women.

The next step was to determine through regression analysis the overall impact of military expenditures on these four general measures of the 'quality of life', and, interestingly enough, a positive and statistically significant relationship only appears to exist in the non-conflict states. Contrary to conventional wisdom, the 'quality of life', even in one of the poorest regions of the world, does not inevitably decline with increased military burdens, and, in fact, in some environments, particularly those characterised by a high level of legitimacy and by low conflict, there seem to be a number of positive results.

We can speculate as to the underlying reasons for these findings. The low-conflict, high-legitimacy countries may have integrated public health and educational facilities into the military, and they may have encouraged soldiers in remote or backward regions to act as teachers and *animateurs* who are capable of promoting rural development. There are a number of accounts in the literature of this type of dual function of the armed forces: in many areas of Africa they may be the most efficient medium through which governments can introduce health, education, sanitation, and nutritional programmes. However, it would clearly be more of a 'luxury' for the low-legitimacy, high-conflict states to use their military in this manner, and in any case they may be less inclined to introduce improvements in the 'quality of life' for large segments of the population.

If this interpretation is correct, we should expect to find that the conflict states are more inclined than the others to reduce their socio-economic financial allocations as they increase their spending on defence. To test this hypothesis, the latter's share in the central government budget was regressed on the share of each of the other major socio-economic categories.[1] The following contrast emerged from this analysis:

1. The non-conflict states have experienced several positive linkages between defence and socio-economic expenditures, notable public services, education, health, social security, roads, and transportation, which in each case showed a high degree of statistical significance. The only statistically significant negative 'trade-off' was in respect of agriculture.
2. The conflict states have experienced a few negative linkages between defence and socio-economic expenditures, notably public and economic services, and roads. Other categories, such as education, health, social welfare, and agriculture have had a non-statistically significant association with defence.

In short, the results obtained in this analysis of budgetary 'trade-offs' provide additional evidence that increased spending on defence tends to improve the general 'quality of life' in non-conflict states and to reduce it in others.

Other insights into the reasons for the differential socio-economic impact of military expenditures can be obtained by examining the means through which they have been financed. For example, since it is rather unlikely that the

[1] Data are from the World Bank, *World Development Report* (New York), various issues.

governments of the conflict states would be able, due to hesitancy on the part of suppliers of external credits, to obtain sufficient loans to finance the expanded requirements of the armed services, they would be forced to divert resources from other activities. On the other hand, since the governments of the non-conflict states are likely to be more credit-worthy, and thus able to utilise external loans for their expanded military expenditures, they would not need to divert a large volume of resources away from other activities.

To test this hypothesis, military expenditures were regressed on the gross domestic product, external public debt, and debt-service payments. The following contrast emerged from this analysis:

1. The non-conflict states have relied largely on external public debt to cover their military requirements. It appears that in order to maintain credit-worthiness, they have given a high priority to debt servicing, if necessary at the expense of increased spending on the armed forces.
2. The conflict states have not been able to draw extensively on foreign resources to facilitate their military build-ups. They have been forced to live largely within their domestic means, with added defence expenditures apparently being made out of cuts in other developments.

As regards the factors that determine arms imports, are there any substantial differences between the conflict and non-conflict states? We might expect that the latter might be in a position to postpone new acquisitions during periods of foreign-exchange scarcity, whereas the conflict states might feel such a pressing need (real or imagined) for new weapons that orders are placed quite independently of the overall state of the economy.

To test this hypothesis, arms imports were regressed on the level of gross foreign-exchange reserves of the country (reflecting ability to finance imports) and total military expenditures (reflecting need for new weapons). Another sharp contrast emerged from this analysis:

1. The arms imports of the non-conflict states have been closely related (in an almost one-to-one pattern) to overall foreign-exchange reserves, presumably because they were correspondingly reduced during periods of currency scarcity. Because of limited needs their governments have had the 'luxury' of being able to postpone arms imports until economic conditions were favourable, thereby ensuring that scarce foreign exchange was not diverted to unproductive uses.
2. The arms imports of the conflict states have not been related to their ability to pay for them, presumably because they reflected immediate needs. Their military build-ups do not appear to have been related to favourable economic conditions, with the net result that sacrifices have probably been inflicted on the population in order to finance their stepped-up levels of spending on the armed forces.

Conclusions

Recent empirical research demonstrates the futility of attempting to generalise about the costs of military expenditures in the Third World. Clearly, the old guns *versus* butter dichotomy is not universally valid, and may, indeed, be extremely misleading for a fairly large group of countries. In addition, our findings tend to confirm the general conclusion derived by

Rothstein from a qualitative examination of such expenditures in developing countries – i.e. that there is no such thing as 'the' security problem, because the types of threats and their intensity, make a difference.[1] More importantly in the African context, the level, composition, and ultimate socio-economic impact of military expenditures are greatly influenced by internal conditions, notable the effectiveness of a government in either meeting or containing the demands of citizens, and the degree to which it can count on them to comply voluntarily with its policies.

Finally, the outcome of our analysis represents a direct challenge to what is generally called 'structural realism', a doctrine that asserts, *inter alia*, that the distribution of power largely determines what happens in the international system irrespective of the nature of the 'actors' involved.[2] The results summarised above indicate that quite the opposite is, in fact, the case in Africa.

[1] Rothstein, op. cit.

[2] See, for example, the arguments presented in A. F. K. Organski and J. Kugler, *The War Ledger* (Chicago, 1980).